

WHAT IS CLAIMED IS:

1. A unit cell for a fuel cell comprising a membrane electrode assembly comprising an electrolyte membrane and a pair of electrodes sandwiching the electrolyte membrane on its sides; conductive wires forcedly contact with the sides of the membrane electrode assembly; and  
5 a frame support for fixing the conductive wire.

2. The unit cell for a fuel cell as claimed in Claim 1, wherein the conductive wires forcedly contact with one side and the other side of the membrane electrode assembly are fixed on the same support.

3. The unit cell for a fuel cell as claimed in Claim 1, wherein the conductive wire acts as a current collector.

4. A unit cell for a fuel cell comprising:  
a membrane electrode assembly comprising an electrolyte membrane and a pair of electrodes sandwiching the electrolyte membrane on its sides;  
5 a frame support;  
a first conductive wire intersecting the region within the frame multiple times, which is fixed on the frame support in one side of the support; and

a second conductive wire crosses over the first conductive wire and  
10 intersecting the region within the frame multiple times, which is fixed on the frame support in the side in which the first conductive wire is disposed;

wherein one side of the membrane electrode assembly is clamped with the first conductive wire while the other side is clamped with the second conductive wire so that the membrane electrode assembly is fixed between the

15 first and the second conductive wires.

5. The unit cell for a fuel cell as claimed in Claim 4, wherein the membrane electrode assembly is disposed such that the whole periphery of the electrolyte membrane is superposed on the support.

6. A unit cell for a fuel cell comprising:

a membrane electrode assembly comprising an electrolyte membrane and a pair of electrodes sandwiching the electrolyte membrane on its sides;

5 a first and a second frame supports;

a first conductive wire intersecting the region within the frame multiple times, which is fixed on the first frame support in one side of the frame support;

10 a second conductive wire intersecting the region within the frame multiple times, which is fixed on the second frame support in one side of the frame support;

wherein the membrane electrode assembly is disposed between the first and the second conductive wires; and the first and the second frame supports are fixed, facing to each other such that one side of the membrane electrode assembly is clamped with the first conductive wire while the other side is clamped with the second conductive wire.

7. The unit cell for a fuel cell as claimed in Claim 1, wherein the conductive wire is made of a metal.

8. The unit cell for a fuel cell as claimed in Claim 7, wherein the conductive wire is plated with gold.

9. The unit cell for a fuel cell as claimed in Claim 1, further comprising a reactant reservoir for feeding a fuel or oxygen-containing gas to

the electrode.

10. The unit cell for a fuel cell as claimed in Claim 9, wherein the reactant reservoir for feeding a fuel or oxygen-containing gas to the electrode is disposed in each side of the frame support.

11. The unit cell for a fuel cell as claimed in Claim 1, wherein the electrolyte membrane is a solid polymer electrolyte membrane.

12. A fuel cell comprising the unit cell for a fuel cell as claimed in Claim 1 as a component.

13. A fuel cell comprising a plurality of unit cells comprising an electrolyte membrane and a pair of electrodes sandwiching the electrolyte membrane on its sides as a unit of membrane electrode assembly; a conductive wire forcedly contact with each of the pair of electrodes  
5 in each unit cell; and a support for fixing the conductive wires;

wherein the plurality of unit cells are disposed such that the membrane electrode assemblies are in the same plane; and

the membrane electrode assemblies in the individual unit cells are fixed by the conductive wires sandwiching each assembly for  
10 electrically interconnecting the unit cells.

14. The fuel cell as claimed in Claim 13, wherein the conductive wire acts as a current collector.

15. The fuel cell as claimed in Claim 13, wherein the plurality of unit cells are electrically interconnected in series; and

adjacent two unit cells are electrically interconnected by a conductive wire common to both unit cells, which is forcedly  
5 contact with the electrode in the front side of one unit cell and with the electrode in the rear side of the other cell.

16. The fuel cell as claimed in Claim 15, wherein the plurality of unit cells are aligned as two lines in a first direction; adjacent two unit cells are alternately interconnected in the first direction and a second direction perpendicular to the first direction; and both ends of the conductive wire connecting these two unit cells are fixed on the support.

17. The fuel cell as claimed in Claim 13, wherein the plurality of unit cells shares a single electrolyte membrane.

18. The fuel cell as claimed in Claim 17, comprising a reinforcing member on a region in the electrolyte membrane between two adjacent unit cells;

wherein the conductive wire connecting these two adjacent unit cells penetrates the reinforcing member.

19. The fuel cell as claimed in Claim 13, wherein the support has a frame shape.

20. The fuel cell as claimed in Claim 13, comprising a reactant reservoir for feeding a fuel or oxygen-containing gas to the electrode, wherein the storage space in the reactant reservoir is shared by all of the plurality of unit cells.

21. The fuel cell as claimed in Claim 13, wherein the conductive wire is made of a metal.

22. The fuel cell as claimed in Claim 13, wherein the conductive wire is a strand of metal fibers.

23. The fuel cell as claimed in Claim 21, wherein the conductive wire is plated with gold.

24. The fuel cell as claimed in Claim 13, wherein the

electrolyte membrane is a solid polymer electrolyte membrane.